SHORT-TERMINTERNSHIP

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Acknowledgements

This power BI Presentation on topic of AIR TRANSPORTATION NETWORK BI Acknowledge that I have gained a Comprehensive understanding of air transportation networks including airlins operation and scheduling Air traffic management and control airport operations and logistics aviation safety protocols and regulations logistics and supply chain management in air transporation. The air transportation industry Software and Systems. Understand the complexities of air transportation networks and can apply my knowlege to analyze optimize, and improve network Effeciently, of Safety, and reliability. Air tramportation networks are Complex System that involve Multiple stakeholders. Including airlines, airports, air traffic control, and Passengers Business intelligence BI Plays a crucial role in insights and analytics to supports of decision making of air transportation network BI.

Contents

This page content gives an idea only, which topics have to write.

1: EXECUTIVE SUMMARY

The internship report shall have a brief executive summary. It shall include five or more Learning Objectives and Outcomes achieved, a brief description of the sector of business and intern organization and summary of all the activities done by the intern during the period.

2: OVERVIEW OF THE ORGANIZATION

Suggestive contents

A. Introduction of the Organization
B. Vision, Mission, and Values of the Organization
C. Policy of the Organization, in relation to the intern role
D. Organizational Structure
E. Roles and responsibilities of the employees in which the intern is placed.
F. Performance of the Organization in terms of turnover, profits, market reach and market value.
G. Future Plans of the Organization.

3: INTERNSHIP PART

Description of the Activities/Responsibilities in the Intern Organization during Internship, which shall include - details of working conditions, weekly work schedule, equipment used, and tasks performed. This part could end by reflecting on what kind of skills the intern acquired.

CHAPTER 1: EXECUTIVE SUMMARY

Description of the Sector of business Intern organization

Smartbridge operates in the data analytics sector providing Innovative solutions to enhance business intelligence the organization leverages power with actionable insights, enabling data-driver decision-making

Learning objectives and outcomes

(1) understand Power BI fundamentals
(2) Data modeling
(3) Proficiency in power BI Tools
(4) Data cleaning & Transformation
(5) Data visualization
(6) Report Design and Sharing

Summary of internship activities:-

(1) Attending live training sessions and project-mentoring sessions

(2) Selection of Topic - "Analysis of election in India" and gathering, cleaning and analyzing its related datasets in excel

(3) Team formation and assignment of Tasks To Team members

(4) Designing Developing interactive dashboard, story, report on project using power BI.

(5) Drafting a project video demonstration and preparation of final report.

CHAPTER-2 : Overview of the organization

Smart Bridge is a platform that offers virtual internship to the students. the platforms goal is to prepare students for the job market by establishing a cooperative relationship between industry Academic. Smart Bridge partners with companies such as google to offer virtual internships. The internships provide students with hands on experience with the latest technologies and enables project based learning. Smart Bridge's flagship event is the "Summer internship program". The program develops students skills in emerging technologies i.e

(1) Artificial intelligence (2) machine learning (3) internet of things

organizations objective :-

Smart Bridge's main objective is to bridge the existing gaps between prevailing industry standards and what the academics offers to the graduates while passing out of university. Smart Bridge offers suitable skill development training to the young talent before on boarding their first job. Their skill development programs are designed considering the present in demand skills in the industry

we thereby work a long the line to offer best programs that helps the students to gain practical knowledge and hands on training to learn skills of these future.

Therefore the main objectives of Smart bridge is providing internship for every studen promote industry approved professional electives becom a talent factory of India by 2026

CHAPTER-3: Internship Part

Description of the Activities/ responsibilities undertaken

(1) Registering the with APSCHE Smart Internship enrolling for Smart bridge's data analytics Course i.e live training sessions as per the pre-scheduled Training Calendar

(2) Participating weekly quiz Completing weekly assignment with respect to data analytics

(3) Gathering, cleaning analyzing the excel data sets of the project topic - "Analysis of election in India"

(4) Attending project-mentoring sessions and designing and developing interactive dashboard Report on the project topic using Power BI

(5) Submission of Team project via uploading the project files in Github Repository of the Team.

ACTIVITY LOG FOR THE FIRST WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person in - Charge Signature
Day – 1 3/7/24	Introduction of data analysis and Interpreted data visualization	Analysis of the topic	
Day - 2 4/7/24	Agenda and understanding Consumers	Clear view of business problem and its Solution	
Day – 3 5/7/24	Types of analytics. Process and download of Power BI	Clear analysis on DA tools and Process regarding it	
Day – 4			
Day – 5			
Day –6			

WEEKLY REPORT

WEEK-1(From Dt. 3/7/24 to Dt. 5/7/24)

Objective of the Activity Done: Introduction to power BI and data Analytics

Detailed Report:

→ The Data Analytics is the practice of the utilizing data, Statistical method and technology to extract meaningful insight and make decisions of accordingly.

→ The key Components of Data Analytics :-

The Data cleaning, Data Analysis, Data Visualization and Interpretation.

→ DA Tools are Software Programs, applications and other that help Professionals analyze data sets to provide insights, predictions and decision of making information.

→ The Power BI visualizes the graph dashboards, and Pie Charts. It facilitates reports etc.

Explained about features of power BI.

→ Power BI Components like Data View, Power views, Power queries, desktop, and power BI Service etc.

ACTIVITY LOG FOR THE SECOND WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In - Charge Signature
Day – 1 8/7/24	Features and Components of Power BI	Clear views on every Component learnied.	
Day - 2 9/7/24	Power BI inaction and its architecture	visible insights and sales format	
Day – 3 10/7/24	Power query and transformation Operation	clarity about ETC tools	
Day – 4 11/7/24	Tool Present in Power BI Desktop	Clear view on each and every tool Present	
Day – 5 12/7/24	Analysing raw data in different types	learned about practicality on data usage.	
Day –6			

WEEKLY REPORT

WEEK-2 (From Dt. 8/7/24 ..... to Dt. 12/7/24 .....)

Objective of the Activity Done: To Data Importing and Modeling

Detailed Report:

→ The Data modelling is the creating relationship between table by using the primary key.

→ Data insights flow in power BI: Data source, data view and model view for data modelling.

→ To explored different data connectors available in power BI. such as Excel, SQL databases and online services.

→ learned about ETL (Extract, transform, load) process within power BI.

→ we learned how to clean, reshape and prepare data using Power Query editor of editor.

→ The training of covered essential functions like filtering, merging and appending data sets. Additionally we were introduced to data modelling concepts such as relationships, Cardinality and data hierarchies.

→ To practical data modeling techniques, including creating the relationships between table using a DAX (Data Analytics expressions) and the functions, and designing Calculated Columns.

ACTIVITY LOG FOR THE THIRD WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In - Charge Signature
Day – 1 15/7/24	Data Collection and data cleaning	Learned about the Process in DA	
Day - 2 16/7/24	Differentiation between Shayboard dashboard and export	Learned the differenced about Content to represent	
Day – 3 18/7/24	Data Structuring and its usage with Power BI	Learned the usage of data Structure.	
Day – 4 19/7/24	Revised on topics on far Completed	Clear view with the usage of Power BI	
Day – 5			
Day –6			

WEEKLY REPORT

WEEK-3 (From Dt....15/7/24.....to Dt....19/7/24.....)

Objective of the Actuvity Done: Data visualization using Power BI.

Detailed Report:

→ The learned about various of visualization options available in Power BI, including the power charts, advanced charts, maps and custom visuals.

→ Studied choosing appropriate visualization for a different data types and insights of power BI.

→ To tools of present in power BI desktop are the Remove columns, Reduce rows, Sorting, Split and Column, group by replace values, transpose, above Reverse rows, Count rows, Rename, etc.

→ There are two ways for analyzing the data of they are visulaization and Statistical.

→ In they third week, the emphasis was on data of visualization techniques using power BI.

→ we explored various types of charts, graphs and maps that can be created in power BI to visulize data of insights. we also learned about customizing visual elements. The sessions included best practices for selecting the value of appropriate vizualizations above based on the types of data.

ACTIVITY LOG FOR THE FOURTH WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In - Charge Signature
Day – 1 22/7/24	Researched the additional Information	additional info about Power BI	
Day - 2 23/7/24	Revised about data Collection and data cleaning	Learned about Starting Power in DA	
Day – 3 24/7/24	Revised about the data visualisation	Clear view on visualisation Part	
Day – 4 25/7/24	DAX and DAX functions	Clear view on DAX function	
Day – 5 26/7/24	All the function Prenent in Power BI	Learned About the function to apply	
Day –6			

WEEKLY REPORT

WEEK-4 (From Dt. 22/7/24 To Dt. 26/7/24)

Objective of the Activity Done: Advanced Data Analysis with "DAX"

Detailed Report: This week was dedicated to the deepening on our understanding of 'DAX' for advanced data analysis

→ The DAX's ability to handle and Complex of expressions and provided advanced of calculation directly with in Power BI.

→ DAX in environment empowers user to use their data in transformative ways.

→ The Strategic planning to Predicting future trends and improving Customer 'DAX' of satisfaction

→ Data Analysis expressions DAX is a library of functions and Operators that can be combined to build formulas and expression in Power BI.

→ Analysis Services and Power Pivot in a excel data models.

→ Applied time intelligence functions to analyze trends over time.

→ To improve that the accuracy and Efficiency of data model using a Advanced of 'DAX'.

ACTIVITY LOG FOR THE FIFTH WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In - Charge Signature
Day – 1 29/7/24	Explained more factor in DAX	Learned about expressions and function in DAX	
Day - 2 30/7/24	more about fillow function in DAX	Clear view on different views	
Day – 3 31/7/24	Preparation for Grand assessment	Prepared for test	
Day – 4 1/8/24	Preparation for grand assesment	Prepared for test.	
Day – 5 2/8/24	Grand assesment test	Practice assesment	
Day –6			

WEEKLY REPORT

WEEK-5 (From Dt. 29/7/24 To Dt. 2/8/24)

Objective of the Activity Done: functions and power BI Service

Detailed Report: The functions of power BI is a Collection of Software Services apps and connectors that works together to turn your unrelated Sources of data into Coherent, visually immersive, and interactive insights - table.

→ Power BI data might be an excel spreadsheet are a Collection of cloud - based and on-premises to a data base.

→ The power BI lets you easily connect to your data sources, visualize and discover.

→ A windows of desktop application called a power BI Desktop.

→ Power BI Desktop, the Service and the designed to let a create, share and consume business and role work effectively.

→ To create a Power BI Report Build, for creating paginated to share in the Power BI Service.

→ To finally to a focus of this week was on applying of power BI skills.

ACTIVITY LOG FOR THE SIXTH WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In - Charge Signature
Day – 1 5/8/24	Optimising powerBI report	clear view on Optimisation	
Day - 2 6/8/24	Implementation of incremental data	Learned ways of with huge actives	
Day – 3 7/8/24	Application in business Scales	Clear view in saved time to application.	
Day – 4 8/8/24	Application of techniques to Size data models	Learned about sizing data model	
Day – 5 9/8/24	Learned about users information with reports.	allows view in report based data	
Day –6			

WEEKLY REPORT

WEEK-6 (From Dt.....5/8/24..... to Dt.....9/8/24.....)

Objective of the Activity Done: Report Optimization and performance Tuning

Detailed Report: This week focused on performance for existing reports by Optimizing the Process of the Power BI.

→ Learned about Power BI Optimization of report can tell you the including data reduction, Efficient use the DAX of every Optimizing of Optimization.

→ To Implemented Incremental data refresh to improve the repore load times.

→ The invaluable tool for Performance of tuning is the repor of optimization report from the memory usage.

→ This Sessions also included Case Studies Show Casing how to companies use the Power BI for using Business Intelligence, and Sales of analysis, repesting and operational Efficiency.

→ Optimized of existing reports to load the data faster and handle larger data sets.

→ To the overall of performance and user to experience of power BI reports.

ACTIVITY LOG FOR THE SEVENTH WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In - Charge Signature
Day – 1 12/8/24	formation of Team	Clear view on team	
Day - 2 13/8/24	Project scope and Objective	Clear view on Project assigned	
Day – 3 14/8/24	Aggregation of Public report	Segregation of data analysis	
Day – 4 15/8/24	Configured Public Refernces	Reviewed Salt on data set	
Day – 5 16/8/24	feedback on accessibility with published report.	Clear view on outcome of reports.	
Day –6			

WEEKLY REPORT

WEEK-7 (From Dt. 12/8/24 to Dt. 16/8/24)

Objective of the Activity Done: Assignment of Project Work

Detailed Report: The Data Analysis and Visualization.

This week was dedicated to learning to Publish and Share power BI reports with Stake holders.

→ The Power BI Product team will guide you through the Power BI end-to-end. Starting from how to Connect to me import your data.

→ The project involved analyzing a dataset of provided by a Smart Internz, cleaning and transforming the data, building data model.

→ Power BI Desktop, Publish those reports to the Power BI Service Create a dashboard and share to business ures.

→ Successfully To Published report to the Power BI service and shared Them with the internship team.

→ To connecting, importing, shaping and transforming data for business intelligence.

→ Received feed back on the accessibility and usability of the Published reports.

ACTIVITY LOG FOR THE EIGHTH WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In - Charge Signature
Day – 1 19/8/24	Presenting to actionable insights	Clear view on pictorial representation	
Day - 2 20/8/24	Presenting the dashboards and reports	Representing the final output	
Day – 3 21/8/24	Collaborations, file uploading,	Alloting work to all members in team	
Day – 4 22/8/24	Reviewing on dashboard, report	Clear view on work done in DA	
Day – 5 23/8/24	Submission of Project	Submited to mentor	
Day –6			

WEEKLY REPORT

WEEK-8 (From Dt. 19/8/24 to Dt. 23/8/24)

Objective of the Activity Done: Finalization of Project coork.

Detailed Report: Finalization and presentation.

Do final week was focused on completing a capstone Project and presenting to the internship project of Power BI Supervisor.

→ The worked on a final project that involved to analyzing a complex data set and presenting of actionable to a mock client.

→ Presented the final report to all the internship Supervisors, showcasing the like a Skills and knowledge gained throughout the internship

→ Developed a Comprehensive power BI report that included data exploration, advanced visualizations, and key recommendations.

→ Successfully completed the Capstone Project demonstrating a strong understanding of data analytics using Power BI.

→ Concluded the internship with a deeper appreciation for data analytics and Power BI as a business Intelligence tool.

CHAPTER 6: OUTCOMES DESCRIPTION

Describe the work environment you have experienced *(in terms of people interactions, facilities available and maintenance, clarity of job roles, protocols, procedures, processes, discipline, time management, harmonious relationships, socialization, mutual support and teamwork, motivation, space and ventilation, etc.)*

Based on my training data, I can describe a typical work environment in an air transportation network:

People interactions:

→ Collaborative and dynamic team environment.
→ Frequent interactions with colleagues from various departments (eg: Operations, maintenance, Customer service).
→ Communication with pilots, flight attendants, air traffic controllers, and other stakeholders.

Facilities and maintenance:

→ well-maintained aircraft, equipment and facilities.
→ Access to advanced technology and tools.
→ Regular maintenance schedules to ensure safety and efficiency.

Clarity of job Roles:

→ Defined roles and responsibilities
→ clear expectations and performance metrics.
→ opportunities for Professional growth and development.

Protocols, Procedures, and Processes:-

→ Established Protocols for Safety, security, and emergency procdures.

→ Standardized Procedures for flight Operations, maintenance, and Customer service.

→ Efficient Proces for managing flights, passengers, and cargo.

Discipline and Time management:

→ Adherence to Strict schedules and timelines.

→ High level of discipline and attention to details.

→ Effective time management to ensure Smooth Operations.

Harmonious Relationships and Socialization:

→ Respectful and inclusive work envirment.

→ Opportunities for socialization and team-building

→ Supportion colleagues and Supervisors.

mutual support and teamwork:-

→ collaborative approach to Problem-Solving and challenge resolution.

→ willingness to assist and support Colleagues.

→ Strong sense of teamwork and Camaraderie.

Describe the real time technical skills you have acquired (*in terms of the job- related skills and hands on experience)*

As a digital assistant, I don't have personal hands-on experience, but I can describe the technical skills and knowledge I've acquired related to air transportation networks:.

Job-related Skills

→ Airline Operations: I understand the basics of airline operations, including flight scheduling, aircraft routing, and crew management.

→ Air traffic management: I'm familiar with air traffic control procedures, including flight planning, routing, and separation standards.

→ Airport Operations: I know about airport layouts, terminal operations, and ground handling procedures.

→ Aviation Safety: I'm aware of safety protocols regulations, and standards in air transportation.

Technical Skills:

→ Data analysis: I can process and analyze large datasets related to air transportation, including flight schedules, passenger traffic, and aircraft performance.

→ Network optimization: I'm familiar with network optimization techniques, including route optimizations and scheduling algorithms.

→ Programming languages: I have knowledge of programming languages such as Python, Java, and C++, which are used in air transportation applications.

→ Simulati modeling concepts and can apply them to air transportation scenarios.

Hands-on experience (simulated):

→ Airline schedule optimization: I can simulate airline schedule optimization scenarios using algorithms and data analysis.

→ Air traffic control simulations: I can simulate air traffic control scenarios, including flight routing and separation standards.

→ Airport operations simulations: I can simulate airport operations, including terminal management and ground handling.

→ Route network optimization: I can simulate route network optimization of air transportation network.

Describe the managerial skills you have acquired *(in terms of planning, leadership, team work, behaviour, workmanship, productive use of time, weekly improvement in competencies, goal setting, decision making, performance analysis, etc.*

The Planning I can develop Strategic Plans to Optimize air transportation networks considering factors likes flight schedules, aircraft routing, and airport operations, would you Plan a flight schedule to minize passenger of cross-functional team to implement BI Solutions.

Developing Strategic plans to Optimize air transportation networks, considering factors like flight schedules, aircraft routing, and airport Operations. Creating tactical plans to Implement BI Solution including data integration, analytics, and visualization. establishing Project timelines milestones, and resource allocation plans. The collaborating with Stakeholders, including airlines, airports, and air-traffic control, to achieve common goals.

Facilitating workshops, meetings and training sessions to ensure knowledge sharing and alignment. adaptability

resilience, and a customer-centric approach in managing air transportation networks. Embracing minimal disruption to network operations. maintain a positive and solution focused attitude in hight-pressure situations.

Staying current with industry trends technological advancements and emerging best practices in air transportation network BI. Participating in webinars workshops, and Conferences to expand knowledge and network. Applying new skills and knowledge to real-world scenarios. ensuring continuous improvement. establishing clear, measurable goals for optimizing air transportation network and improving BI solution. Setting specific achievable and adjusting goals to ensure alignment with changing business needs and Optimize air transportation network BI initiatives driving business value improving to network Efficiency and enhancing Customer Satisfaction.

Describe how could you could enhance your abilities in group discussions, participation in teams, contribution as a team member, leading a team/activity.

Air transportation network Prepare thoroughly on the topic researching and organizing throughts of listen actively, asking clarifying questions and organizing understanding contribute meaningfully, sharing relevant experiences and insights. encourage others to participate Creating a Safe and inclusive environment Summarize of key Points and action items, ensuring clear understanding. Collaborative planning and optimization of air transportation network Effective Communication with Stakeholders including airlines, airports and passengers through that leadership in implementing new technologies or processes Such as BI Solution. Participation in industry forums and Conferences, Sharing knowledge and best practices Contribution to teams forums and improving air transportation network Efficiency, Safety, and customer Satisfaction. of air transportation network. and the networks has

to understanding the structure and behavior of air transportation network including nodes, edges and connectivity, applying to a visualization to presenting complex data insights of reports and optimize flight schedules, aircraft routing, and airports operations. Integration of the from a aircraft airports, and ground transportation to optimize networks.

The empirical application of network analysis to air transport Comparing the route network of Star Alliance to the route network of one world. We should that both networks exhibit a low density, a short averge distance, and a high clustering Coefficient. However the network of one world is more dependent on Single hubs. This structure of corresponding to a higher vulnerability to the failure of these important hubs on this basis, we Portray further research questions where network-analytical investigations may reveal valuable insights for air transportation networks. BL.

Describe how you could improve your communication skills *(in terms of improvement in oral communication, written communication, conversational abilities, confidence levels while communicating, anxiety management, understanding others, getting understood by others, extempore speech, ability to articulate the key points, closing the conversation, maintaining niceties and protocols, greeting, thanking and appreciating others, etc.,)*

There are all major issues that deserve of attention but the focus here is no one particular to aspect of the air transportations market, namely the role of hub airports in the system. Airline networks are complex structures of minimize costs, and with this to keep fares down. airlines need to keep the aircraft in the air for the longest possible time, to achieve the highest possible load factor, and to coordinate their aircraft, crew and maintenance schedules. Although route network planning and route network design is a crucial task for airline managers only few applications of network analytical techniques to air transport exist. This paper develops the methodological and conceptual foundations for the analysis of airline route networks. we demonstrate

Describe the technological developments you have observed and relevant to the subject area of training *(focus on digital technologies relevant to your job role)*

—A complex network of air transportation system including airports, airlines, air traffic control, and other stakeholders. to optimize network performance improve safety, and echance passenger experience Through data-driven insight. management, analytics, and reporting and performance management air transport-ation network BI improved network efficiency, echanced safety increased passenger satisfaction, and better then decision-making true data quality issues, system integration stakeholder buy-in, and scalability.

Collaboration among stakeholders is crucial for effective network management and optimization of technology has transportaion network industry of enabling improved efficiency, safety, and passenger afron passing experience future of air transportation network is focused on sustainability digitalization and above

Digital twin technology creates virtual replicas of air transportation network, enabling simulation and optimization of operations to blockchain technology enables secure and transparent data sharing and mangement across air transportation networks. High-speed network enable real-time data transfer and communication across air the airline and airports are in a air transportation network. autonomous systems such as drones and self-driving vehicles, optimize air transportation network operation and improve safety.

AIR TRANSPORTATION NETWORK